PATENT

**DOCKET NO.:** CARP-0123/P035760US/HGH **Application No.:** 10/579,981

Office Action Dated: March 4, 2009

This listing of claims will replace all prior versions, and listings, of claims in the application.

## Listing of Claims:

- (previously presented) An isolated transformed host cell comprising
  - a chromosomal gene which inhibits cell growth operably linked to a regulatory sequence; and
  - ii) a plasmid comprising an origin of replication encoding an antisense sequence which binds to mRNA transcribed from the regulatory sequence.

wherein the binding of the antisense sequence encoded by the origin of replication of the plasmid to mRNA transcribed from the regulatory sequence inhibits the action of the chromosomal gene, thereby permitting cell growth.

- (previously presented) An isolated transformed host cell according to claim 1 wherein the plasmid comprises a cloning site for insertion of a gene of interest.
- (previously presented) An isolated transformed host cell according to claim 2, wherein
  the plasmid further comprises a gene of interest.

## 4.-9. (canceled)

- 10. (previously presented) An isolated transformed host cell according to claim 1, wherein the antisense sequence encoded by the plasmid is RNAI or a portion thereof and the regulatory sequence operatively linked to the chromosomal gene encodes RNAII or a portion thereof.
- 11. (previously presented) An isolated transformed host cell according to claim 1, wherein the antisense sequence encoded by the plasmid is RNAII or a portion thereof and the regulatory sequence operatively linked to the chromosomal gene encodes RNAI or a portion thereof.
- (canceled)

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13. (previously presented) An isolated transformed host cell according to claim 1, wherein the cell is in culture in vitro.

 (previously presented) An isolated transformed host cell according to claim 1 which is a prokarvotic cell.

 (previously presented) An isolated transformed host cell according to claim 14 which is a bacterial cell

 (previously presented) An isolated transformed host cell according to claim 15, wherein the cell is a gram negative bacterial cell.

 (previously presented) An isolated transformed host cell according to claim 16, wherein the cell is an E. coli cell or a Salmonella cell.

 (previously presented) An isolated transformed host cell according to claim 15, wherein the cell is a gram positive bacterial cell.

 (previously presented) An isolated transformed host cell according to claim 18, wherein the cell is a *Bacillus* cell.

 (previously presented) An isolated transformed host cell according to claim 15 which is an attenuated cell.

 (previously presented) An isolated transformed host cell according to claim 1 wherein the cell is a eukaryotic cell.

 (previously presented) An isolated transformed host cell according to claim 21 wherein the cell is a fungi.

 (previously presented) An isolated transformed host cell according to claim 21, wherein the cell is a plant cell. DOCKET NO.: CARP-0123/P035760US/HGH Application No.: 10/579,981

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- 24. (previously presented) An isolated transformed host cell according to claim 21 wherein the cell is an animal cell
- 25. (previously presented) An isolated transformed host cell according to claim 1, wherein the chromosomal gene is a toxin gene.
- 26. (previously presented) An isolated transformed host cell according to claim 25, wherein the toxin gene is *sacB*.
- 27. (previously presented) An isolated transformed host cell according to claim 1, wherein the chromosomal gene encodes a repressor protein that inhibits expression of a second chromosomal gene essential for cell growth.
- 28. (previously presented) An isolated transformed host cell according to claim 27, wherein the second chromosomal gene is conditionally essential for cell growth.
- (previously presented) An isolated transformed host cell according to claim 27 wherein
  the chromosomal gene encodes the repressor *lac1* and the second chromosomal gene is
  operatively linked to a *lac* operator and promoter.
- 30. (previously presented) An isolated transformed host cell according to claim 27 wherein the chromosomal gene is *dapD* or *fabA*.
- 31. (previously presented) An isolated transformed host cell according to claim 1, wherein the chromosomal gene encodes an antisense sequence that inhibits expression of a second chromosomal gene essential for cell growth.
- 32. (previously presented) An isolated transformed host cell according to claim 31, wherein the antisense sequence encoded by the chromosomal gene inhibits expression of the second chromosomal gene by binding to the chromosomal gene.

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- 33. (previously presented) An isolated transformed host cell according to claim 31, wherein the antisense sequence encoded by the chromosomal gene inhibits expression of the second chromosomal gene by binding to mRNA transcribed from the second chromosomal gene.
- 34. (previously presented) An isolated transformed host cell according to claim 31 wherein the second chromosomal gene is conditionally essential for cell growth.
- 35. (previously presented) An isolated transformed host cell according to claim 31, wherein the second chromosomal gene is *dapD* or *fabA*.
- 36. (previously presented) An isolated transformed host cell according to claim 1 wherein the chromosomal gene operably linked to a regulatory sequence is under the control of a constitutive promoter.
- 37. (previously presented) An isolated transformed host cell according claim 1 wherein the chromosomal gene operably linked to a regulatory sequence is under the control of an inducible promoter.
- 38. (previously presented) A method of maintaining a plasmid in a host cell in vitro comprising the step of culturing a an isolated transformed host cell according to claim 1 under conditions sufficient to permit said cell to grow.
- (previously presented) A method of producing plasmid DNA comprising culturing an
  isolated transformed host cell according to the method of claim 38 and isolating the plasmid
  DNA.
- 40. (previously presented) A method of producing a recombinant protein comprising culturing an isolated transformed host cell comprising a plasmid encoding a protein of interest according to the method of claim 38 and isolating the protein from the cell.

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 (previously presented) A composition comprising a an isolated transformed host cell according to claim 1 together with a pharmaceutically acceptable excipient, diluent or buffer.

42.-43. (canceled)

44. (currently amended) A method of delivering a gene to a patient comprising administering to the patient an isolated transformed host cell according to claim 3, wherein the isolated transformed host cell is suitable for veterinary or human therapeutic use.

45. (currently amended) A method of maintaining a plasmid in a recipient organism comprising introducing an isolated transformed host cell according to claim 1 into said organism, wherein said chromosomal gene in said transformed host cell is essential for cell growth in vivo and the transformed host cell is suitable for veterinary or human therapeutic use.

46.-71. (canceled)

72. (currently amended) A method of immunizing a patient against a disease caused by a pathogen comprising administering an isolated transformed host cell according to claim 1 to the patient, wherein the isolated transformed host cell is suitable for veterinary or human therapeutic use.

(canceled)